

CLAIMS

1. Fuel for feeding spark ignition engines, in particular those fitted in aircraft, having an F4 octane number at least equal to 130 and a reduced level of aromatic compounds, said fuel containing substantial quantities of a first hydrocarbons base (B1) essentially constituted by isoparaffins comprising 6 to 9 carbon atoms, and a second hydrocarbons base (B2) also constituted by isoparaffins comprising 4 or 5 carbon atoms and, optionally, by other hydrocarbons and additives customary for this type of fuel, in a quantity and quality sufficient for the fuel to comply with the specifications in force, characterized in that it contains at least 5.0% by volume, and preferably at least 10.0% by volume, of a hydrocarbons base (B3) essentially composed of cycloparaffins comprising 6 to 8 carbon atoms, and in that the ratio R of the quantities by volume (B1+B2)/B3 is greater than 2.0 and preferably comprised between 2.3 and 19.0.

15 2.- Fuel according to claim 1, characterized in that the ratio K of the quantities by volume B1/B2 is greater than 2.0 and preferably comprised between 2.3 and 10.6.

20 3.- Fuel according to claims 1 and 2, characterized in that the cycloparaffinic hydrocarbons cut (B3) is essentially constituted by cyclohexanes.

25 4.- Fuel according to claim 3, characterized in that the level of cyclohexanes in the cycloparaffinic hydrocarbons cut (B3) is greater than 80% and preferably greater than 90% by mass.

30 5.- Fuel according to any one of the preceding claims, characterized in that the first isoparaffinic hydrocarbons cut (B1) is essentially constituted by isoparaffins with eight carbon atoms.

35 6.- Fuel according to claim 5, characterized in that its level of the isoparaffinic hydrocarbons cut (B1) with eight carbon atoms is greater than 40% and preferably greater than 43% by volume.

7.- Fuel according to claims 5 or 6, characterized in that the isoparaffinic hydrocarbons containing eight carbon atoms are isoctanes.

8.- Fuel according to one of claims 5, 6 and 7, characterized in that the level of iso-octanes in the isoparaffinic hydrocarbons cut (B1) with eight carbon atoms is greater than 70% by mass and preferably greater than 75% by mass.

5 9.- Fuel according to any one of the preceding claims, characterized in that the second isoparaffinic hydrocarbons cut (B2) is essentially constituted by isoparaffins with five carbon atoms.

10 10.- Fuel according to claim 9, characterized in that the isoparaffinic hydro-
carbons containing five carbon atoms are isopentanes.

15 11.- Fuel according to one of claims 9 and 10, characterized in that the level of isopentanes in the isoparaffinic hydrocarbons cut (B2) with five carbon atoms is greater than 85% by mass and preferably greater than 90% by mass.

12.- Fuel according to claim 9, characterized in that the isoparaffinic hydro-
carbons cut containing 5 carbon atoms is replaced by a cut constituted by hydro-
carbons containing 4 carbon atoms.

20 13.- Fuel according to any one of the preceding claims, characterized in that its level of aromatic compounds is less than 10% by volume and preferably less than 5% by volume.

25 14.- Fuel according to any one of the preceding claims, characterized in that its benzene content is less than 0.2% by volume and preferably less than 0.1% by volume.

15.- Use of the fuel according to any one of the preceding claims to feed, alone or in mixture, spark-ignition engines of aircraft.

30 16.- Use of the fuel according to any one of the preceding claims to feed, alone or in mixture, spark ignition engines of competition or similar vehicles.

17.- Use of the fuel according to any one of the preceding claims to feed, alone or in mixture, a fuel treatment unit, such as a reformer, coupled to a fuel cell.